

Curriculum & Faculty Rewards



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Vertically-Integrated Projects Program

- Currently VIP registration is as ECE listed courses
 - ECE 2811 Sophomore 1 credit
 - ECE 3811 3812 Junior 1 or 2 credit
 - ECE 4811 4812 Senior 1 or 2 credit
- Specific section number for each team
 - 31 teams x 5 courses per team > 150+ courses to manage
- Transitioning to "VIP" in place of ECE courses
- Typical class is 3 credits per semester



Vertically-Integrated Projects Program

- ECE Credit:
 - If a student takes six or more credits of VIP, three can count as ECE elective credits and three can count as approved elective credits.
- Any combination of VIP courses accumulating 6+ credits. Additional credits count as approved elective.
- Goal is to have a substantial experience in a VIP team
 - 2-2-2 or 1-1-2-2 or ...



Vertically-Integrated Projects Program

- VIP participation towards Senior Design if:
 - (a) their VIP project is suitable for an EE or CmpE culminating design project,
 - (b) they have previously registered for the same VIP team in 3 successive semesters prior to taking Senior Design II (ECE 4012);
 - (c) during those semesters they take VIP for at least 1 – 2 – 2 credits
 - (d) the last two credits are taken in their senior year; and
 - (e) they satisfy all other senior design requirements, including completion of Senior Design I (ECE 4011)
- Register for ECE 4012A + ECE 4012VP* by VIP permit



Vertically-Integrated Projects Program

- ECE VIP Senior Design Course Sample

	VIP Course	Senior Design	
Fall 2013	ECE 3811 VP3 (1 credit)*		
Spring 2014	ECE 3812 VP3 (2 credit)		
Fall 2014	ECE 4812 VP3 (2 credit)	ECE 4011 (2 credit)	
Spring 2015	ECE 4012A + ECE 4012VP3 (3 credit)		

- The 5 credits of VIP specific courses count for 3 ECE electives and 2 approved electives.



Vertically-Integrated Projects Program

(a) Suitable EE or CmpE culminating design project

- Needs to have some hardware/software design and build aspect
 - Not all teams have relevant work areas
- Questions to Randal Abler (randal.abler@gatech.edu)



Vertically-Integrated Projects Program

- ECE 4012 A + VP* Grading
 - Major deliverables per Senior Design are required
 - Preliminary Proposal
 - Proposal
 - Final Report
 - Final Presentation
 - Design Notebook
 - These deliverables are submitted to Randal Abler randal.abler@gatech.edu for grading per VIP
 - Collaboration with Team Advisor
 - Forwarded to Senior Design team for long term archival & review



Vertically-Integrated Projects Program

- Curriculum must establish a clear incentive for 2 year participation
 - 6 credits (could be achieved in 3 semesters)
 - Builds student leadership and embedded knowledge
- One semester participation needs to be actively discouraged



Vertically-Integrated Projects Program

- Another model
 - Any total of less than 6 credits is free elective,
 - A total of 6 credits counts as 6 technical elective credits
 - Additional credits beyond 6 are free elective
- Credits on the same team
 - avoids team hopping
 - with an exception mechanism for special cases
 - Teams ending/transitioning



Vertically-Integrated Projects Program

- Our approach to curriculum committees (laborious)
 - 1) Advisor in new discipline likes VIP concept, wants team
 - 2) We assist advisor in presenting case to their school
 - Academic credit for students
 - Workload credit for faculty
 - 3) Not all advisors wait for curriculum committee approval before starting teams
 - 4) Capstone/Senior Design credit often approved in a second iteration



Vertically-Integrated Projects Program

- Faculty Rewards:
 - Research productivity motivation
 - Some cases VIP streamlines what faculty are already doing with undergraduates in their research program
 - Rewarding Teaching experience
- Initial startup lacks clear reward
 - 1 course workload credit total for combination of first two semesters of teaching a team



Vertically-Integrated Projects Program

While building numbers is a criteria,
a strong initial implementation of VIP
is critical to long term success